

**LOOP INSTRUCTION PROCESSING USING  
LOOP BUFFER IN A DATA PROCESSING DEVICE**

**Abstract of the Disclosure**

A data processing device comprising a central processing unit (CPU) for fetching  
instructions from a program memory, decoding the instructions and sending a signal  
(CCLK) to a coprocessor if a coprocessor type instruction is decoded; a coprocessor for  
decoding the coprocessor-type instructions upon receipt of the signal (CCLK); and a  
loop buffer for receiving from the program memory instructions within a loop and storing  
the instructions within the loop when the coprocessor decodes a loop operation from the  
coprocessor-type instructions, wherein the instructions within the loop are retrieve from  
the loop buffer for execution in a subsequent iteration of the loop, wherein a disable  
signal is sent to the program memory for inhibiting access of the program memory while  
the instructions within the loop are retrieved from the loop buffer.